



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

**Date 1/7/99**

**MEMORANDUM:**

**SUBJECT: Tetrachlorvinphos . (Chemical ID No. 083701/List A Reregistration Case No. 0321).  
HED Response to 30 day comments submitted by Hartz Mountain Corporation:  
Occupational and Residential Exposure Assessment. DP Barcode No. D251998**

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**THROUGH:** Whang Phang, Ph.D., Branch Senior Scientist  
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The occupational and residential exposure and risk assessment considerations for the HED RED chapter for tetrachlorvinphos were summarized in a memorandum dated 11/3/98 (S. Hanley, DP Barcode D249688). In a letter dated 12/17/98 the Hartz Mountain Corporation (Hartz Mountain), in accordance with the 30 day comment period established under TRAC, recommended specific changes (error corrections) for the occupational and residential exposure and risk chapter of the HED RED.

**CONCLUSION**

HED concurs with most of the proposed error corrections which have been incorporated into the revised chapter dated 1/7/99 (DP Barcode D252001). The proposed changes do not greatly affect the exposure and risk assessment.

## DETAILED CONSIDERATIONS

### ERRORS

#### Registrant Response:

Hartz Mountain error comments follow:

Mathematical errors occur in most of the tables in the TCVP Occupational and Residential Exposure and Risk Assessment (Susan Hanley, Memorandum of 11/3/98). These errors occur as a result of transposition of numbers, decimal errors, transcription errors and for other unknown reasons. An area of specific confusion is the reporting of application rates. The values given cannot be related to either the product sizes reported in Table 15, on page 11 of the report, or to the concentrations given on page 4. Examples of the mathematical errors include:

- Table 9B. Column “Absorbed Dose with Additional PPE (mg/kg/day) –Inhalation”. Row “IXa-Backpack”. Incorrect number for dose.
- Table 9B. Column “Absorbed Dose with Additional PPE (mg/kg/day) – Inhalation”. Row “IXb-Backpack, double layer clothes...”. Incorrect number for dose.
- Table 11. Column “Mixer/Loader/Applicator – LADD (mg/kg/day)”. Row “Wettable Powder (IIIa) – 26 days/365 days/yr”. Incorrect number for LADD.
- Table 12. Column “Total Daily Dose (mg/kg/day)”. Row “IIIb”. Incorrect number for daily
- Table 12. Column “LADD (mg/kg/day)”. Row “IIIb”. Incorrect numbers for LADDs.
- Table 12. Column “Carcinogenic Risk. Row “IIIb”. Incorrect numbers for risk.
- Table 12. Column “Amortization”. Row “VIIb and VIIc”. Numbers of treatments vary from what is reported in Table 10.
- Table 12. Column “LADD (mg/kg/day) and Carcinogenic Risk”. Row “VIIb and VIIc. If the numbers of treatment days are incorrect as specified in the previous comment, then the numbers for LADDs and risks are also incorrect.
- Table 15. Column “Carcinogenic Risk”. Row “Dip – 1 gallon”. Incorrect numbers for risks.
- Table 15. Column “LADD (mg/kg/day)”. Row “Spray Can, Entire Can, 5 days/365 days/yr, 20/70”. Incorrect number for LADD.
- Table 15. Column “LADD (mg/kg/day)”. Row “Dust, Half the Container, 5 days/365 days/yr, 20/70”. Incorrect number for LADD.

- Table 15. Column “LADD (mg/kg/day)”. Row “Pump sprays, Horse, 26 days/365 days/yr, 20/70”. Incorrect number for LADD.
- Table 17. Column “Aerosol Spray (entire can)”. Row “Day 0”. Incorrect number for dermal dose.
- Table 17. Column “Aerosol Spray (half can)”. Row “Day 1”. Incorrect number for dermal dose.
- Table 18. Column “Handler Risk”. Row “Dip (4 gallons)”. Incorrect number for handler risk and consequently total risk.
- Table 18. Column “Handler Risk”. Row “Dip (4 gallons) and Powder (entire container)”. Incorrect number for handler risk and total risk for dip.
- Table 18. Column “Handler Risk”. Row “Dip (4 gallons) and Spray pump (dog, one-half bottle)”. Incorrect number for handler risk and total risk for dip.
- Table 18. Column “Handler Risk”. Row “Spray pump (dog) (one-half bottle) and Powder (entire container)”. Handler risks reversed, consequently total risk is incorrect.
- Table 18. Column “Handler Risk”. Row “Aerosol (Entire can) and Collar (dog)”. Incorrect numbers for handler risk, consequently total risk is incorrect.”

#### **HED Comment:**

Many of these comments were incorporated into the chapter to clarify use profiles and correct sections and tables. The first references to Table 9B, incorrect numbers for Backpack inhalation (scenario numbers; IXa and IXb), were not found to be in error and stand as originally calculated. The error corrections did not result in significant changes in the risk assessment.

#### **OMISSIONS**

##### **Registrant Response:**

Hartz Mountain listed documents it has submitted to the EPA that were not considered in the occupational and residential exposure and risk assessment. The documents appear to be of two types, toxicological data and efficacy data.

The data/studies that are related to the toxicity of tetrachlorvinphos are:

Domestic Animal Safety Cholinesterase Test – Dogs, Test No. 1073 (MRID # 418101-02). This provides cholinesterase inhibition information in dogs and evidence of the lack of acute effects. Further it provides data on concentrations used in dip treatments.

Domestic Animal Safety Cholinesterase Test – Cats, Test No. 1077 (MRID #418101-01). This provides cholinesterase inhibition information and evidence of the lack of acute effects in cats. Further it provides data on concentrations used in dip treatments.

### **HED Comment**

These data are not useful in HED's occupational and residential exposure and risk assessment because the studies do not provide information relevant to evaluation of handlers exposure to active ingredient during application or in post application settings. Further, the HED assessment is based on the label rate for application and exposure parameters. In assessing risk to handlers, HED typically considers the task and amount of active ingredient handled during various activities.

### **Registrant Response:**

The efficacy studies mentioned are:

Weight Loss Study of Rabon Release from 2-in-1 Collars Prepared with Four Alternate Plasticizers (MRID# 43290301). This provides information on the amount of active ingredient released over time and the availability of the active ingredient overall.

Stirofos (SD 8447) Hair Content in Dogs Following Exposure to the 10% Stirofos Flea Collar (Accession No. 00117364). This provides information on the removability of the active ingredient from pet fur.

Wipe and weigh cumulative active ingredient release rates of the TCVP collar which were submitted to the EPA in a letter dated April 5, 1978. This provides information on the amount of active ingredient released over time and the availability of the active ingredient overall.

Hartz Mountain Repellent Study Test No 1157 Pump Spray (MRID # 42614101). This provides use, efficacy and dosage data for pump sprays for dogs with different hair length and weight.

Hartz Mountain Repellent Study Test No 1167 Pump Spray (MRID # 42614102) This provides use, efficacy and dosage data for pump sprays for cats.

Comparison of the Tick and Flea Control Efficacy of 5% Sevin with Three Rabon Insecticide Dog Dusts (Submitted to the EPA on February 22, 1979) . This study provides data on use rates and dosage ranges that achieve efficacy of control in dogs of different weights and with different hair lengths.

**HED Comment:**

Although the collar study mentioned in Accession number 00117364 could be used to refine the residential postapplication exposure assessment, HED's use of conservative assumptions for relevant scenarios resulted in a risk far below the Agency's level of concern. Therefore, no further refinement is warranted.

These studies do not provide handler exposure information relevant to the occupational and residential human risk assessment. The studies mentioned do not state the amount of active ingredient handled by the worker or residential handler; rather, the studies determine the stability of products or period of efficacy. These efficacy data are not relevant to evaluation of handler exposure. There were no direct measurements of active ingredient removed from collars or fur and no measurements of concentration dissipation of products on fur. Therefore, no residue dissipation rates were calculated for the active ingredient. Data that measure the amount of active ingredient removed from the collars or fur and therefore available for human exposure, could be used in assessing occupational and residential exposure if they are available. HED does not intend to incorporate the studies described as omissions into a revised risk assessment for the reasons cited above.